

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: Big Horse Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N01R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 0.67 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: North Carolina State Line
RIVER MILE: 0.67
LATITUDE: 36.58770 **LONGITUDE:** -81.65070

DOWNSTREAM LIMIT:

DESCRIPTION: North Fork New River confluence
RIVER MILE: 0.0
LATITUDE: 36.59630 **LONGITUDE:** -81.64900

Tributary to North Fork New River. This segment was previously BHC01A02. Section 2, Class VI, designated natural trout waters within Jefferson National Forest.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient water quality monitoring station at 9-BHO017.70 has fecal coliform violations in 2 of 9 sampling events.

IMPAIRMENT SOURCE: Unknown

The source is unknown

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: Little Helton Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N01R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 3.42 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Headwaters
RIVER MILE: 6.85
LATITUDE: 36.60830 **LONGITUDE:** -81.50320

DOWNSTREAM LIMIT:

DESCRIPTION: North Carolina State Line
RIVER MILE: 3.43
LATITUDE: 36.57970 **LONGITUDE:** -81.47050

From VA/NC political boundary upstream to headwaters, tributary to Helton Ck. Section 2, Class VI, designated natural trout waters within Jefferson National Forest. The stream is located in Grayson County roughly parallel to Route 748.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient water quality monitoring station at 9-LHC001.92 had fecal violations in 2 of 9 samples.

IMPAIRMENT SOURCE: Unknown

The source is unknown

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: New River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N02R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 7.17 - Miles
INITIAL LISTING: 2004
TMDL SCHEDULE: 2016
UPSTREAM LIMIT:

DESCRIPTION: North Carolina State line
RIVER MILE: 189.06
LATITUDE: 36.57500
LONGITUDE: -81.32389

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence with Bridle Creek
RIVER MILE: 181.66
LATITUDE: 36.59560
LONGITUDE: -81.24270

The segment begins at the North Carolina state line, includes Fields Dam, and extends downstream to the New River confluence with Bridle Creek at the Route 601 bridge. New River roughly parallels the state line in this segment.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Fish Consumption - Fully Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform, Fish Tissue (Hg)

Ambient water quality monitoring stations at 9-NEW181.66 and 9-NEW187.46 had bacteria violations in 3 of 8 and 4 of 36 samples for this assessment cycle. This section is also a 'Water of Concern' for exceedances found from mercury in fish tissue at station 9-NEW187.46. These results are reported as an 'Observed Effect' in the 2004 Integrated Report. In the ADB segment NEW02A98, sediment screening value exceedances for nickel also make this segment a "Water of Concern" and are reported as an 'Observed Effect' in the 2004 Integrated Report.

IMPAIRMENT SOURCE: Unknown, Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: Wilson Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N02R-03
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 8.8 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Intersection of Route 58 and Route 875
RIVER MILE: 8.8
LATITUDE: 36.62080 **LONGITUDE:** -81.43230

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.0
LATITUDE: 36.58450 **LONGITUDE:** -81.32920

This segment parallels Route 58 from Mouth of Wilson at its confluence with New River upstream through Volney. The upstream end is near the intersection of Route 58 and Route 875 about 1.7 miles below the Wilson Creek confluence with Mill Creek in the Jefferson National Forest.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

There is an ambient water quality monitoring station at 9-WLS002.57 with 3 violations in 27 samples collected.

IMPAIRMENT SOURCE: Livestock Grazing or Feeding Operations

The area has agricultural land uses which may contribute to bacteria pollution through livestock grazing or feeding operations.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: Fox Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N03R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 7.67 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Mill Creek confluence
RIVER MILE: 7.67
LATITUDE: 36.67140 **LONGITUDE:** -81.39460

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.0
LATITUDE: 36.60330 **LONGITUDE:** -81.30720

The impaired Fox Creek segment begins upstream at the confluence with Mill Creek to the southeast of Jones Knob and flows southwest to confluence with New River. The segment flows to the north east of Kendrick Mountain.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

There is an ambient water quality monitoring station at 9-FXC000.84 with 4 bacteria violations in 28 samples and another station at 9-FXC003.35 with 2 violations in 9 samples collected.

IMPAIRMENT SOURCE: Livestock Grazing or Feeding Operations

The area has agricultural land uses which may contribute to bacteria pollution through livestock grazing or feeding operations.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: New River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N04R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 1.51 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Bridle Creek confluence
RIVER MILE: 181.66
LATITUDE: 36.59580 **LONGITUDE:** -81.24200

DOWNSTREAM LIMIT:

DESCRIPTION: Saddle Creek confluence
RIVER MILE: 180.15
LATITUDE: 36.60640 **LONGITUDE:** -81.22250

This segment begins at the watershed boundary at Bridle Creek and extends downstream to Saddle Creek. New River flows parallel to Route 58 in this segment to the east of Independence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

An ambient water quality monitoring station at 9-NEW187.46 had 4 bacteria violations for the 36 sampling events. This extends the impaired watershed from VAS-N02R-02.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: Little River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N04R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 5.25 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: North Carolina State line
RIVER MILE: 5.20
LATITUDE: 36.56420 **LONGITUDE:** -81.01200

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.00
LATITUDE: 36.60540 **LONGITUDE:** -81.06200

This segment begins at the state line and extends to its confluence with New River. Routes 632 and 629 flow along portions of this segment.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient water quality monitoring station 9-LVR001.34 had 4 bacteria violations in 18 samples collected in the segment.

IMPAIRMENT SOURCE: Animal Feeding Operations (NPS)

The source may be animal feeding operation non-point source.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: Peach Bottom Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N04R-03
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 2.74 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Beaverdam Creek confluence
RIVER MILE: 2.74
LATITUDE: 36.59970 **LONGITUDE:** -81.11190

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.00
LATITUDE: 36.58320 **LONGITUDE:** -81.08680

The upstream limit for Peach Bottom Creek is its confluence with Beaverdam Creek at the intersections of Routes 765 and 697. The stream flows south along Route 697 to its confluence with New River near Route 700.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

Ambient water quality monitoring station 9-PBC001.12 had 3 bacteria exceedances in 8 samples. This section is also a 'Water of Concern' for exceedances found from total phosphorus (TP) data. These results are reported as an 'Observed Effect' in the 2004 Integrated Report.

IMPAIRMENT SOURCE: Unknown

The source is unknown

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: Elk Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N05R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 10.69 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2010

UPSTREAM LIMIT:

DESCRIPTION: Turkey Fork confluence
RIVER MILE: 10.69
LATITUDE: 36.70778 **LONGITUDE:** -81.12944

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.00
LATITUDE: 36.67167 **LONGITUDE:** -81.02944

The segment begins at its Turkey Fork confluence and continues to confluence with New River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

An ambient monitoring station, 9-EKC003.78, shows 5 of 17 bacteria samples violate the water quality standard. Above this segment of Elk Creek the stream is designated stockable trout waters. The sampling station is downstream of the stockable trout waters which are between Turkey Fork and Knob Fork confluences with Elk Creek.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Carroll, Galax, Grayson
STREAM NAME: Chestnut Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N06R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 14 - Miles
INITIAL LISTING: 1994 **TMDL SCHEDULE:** 2006

UPSTREAM LIMIT:

DESCRIPTION: Galax Intake
RIVER MILE: 14.00
LATITUDE: 36.66278 **LONGITUDE:** -80.92000

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.00
LATITUDE: 36.75944 **LONGITUDE:** -80.95556

The segment includes the mainstem of Chestnut Creek from the Galax raw water intake to the New River confluence. The segment is one mile shorter due to NHD dataset use.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Recreational Use -Not Supporting

IMPAIRMENT CAUSE: General Standard (Benthic), Total Fecal Coliform (2004)

The biologist has visited 4 stations within this reach. Station 9-CST001.31 in 1996 was not impaired, 9-CST002.64 was sampled four times between 1992 and 1997, and rated moderately impaired. Biological monitoring station 9-CST010.10 has been sampled four times and rated moderately impaired in 1992 and 1993 but not impaired in 1995 and 1996. The upstream most station, 9-CST013.29, was visited three times and rated impaired in 1993 but not impaired in 1997. EPA requires two consecutive samples to be not impaired before a segment can be removed from the TMDL List, so the segment is considered impaired. An ambient station at 9-CST002.64 is impaired for recreational use with 3 bacteria violations of 15 samples. This section is also a 'Water of Concern' for exceedances found from zinc and nickel data. These results are reported as an 'Observed Effect' in the 2004 Integrated Report.

IMPAIRMENT SOURCE: Resource Extraction, Unknown

The source of benthic impairment is probably due to mining activities which historically occurred in the area. Allied-Signal Gossen Mine is the former site of sulfur mining operations in an iron-pyrrhotite seam that closed in 1962. This facility has a VPDES permit to treat acid mine drainage. Bacteria violations have added another impairment to this segment based on the 2004 assessment. The source of bacteria is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Galax, Grayson
STREAM NAME: Chestnut Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N06R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 3.68 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Coal Creek confluence
RIVER MILE: 17.68
LATITUDE: 36.63130 **LONGITUDE:** -80.90020

DOWNSTREAM LIMIT:

DESCRIPTION: Galax Water Intake
RIVER MILE: 14.00
LATITUDE: 36.66278 **LONGITUDE:** -80.92000

The segment includes the mainstem of Chestnut Creek from the confluence with Coal Creek, near Cox Mill downstream to the Galax raw water intake. The segment is above Galax City limits.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform, e. Coli

An ambient station at 9-CST016.82 is impaired for recreational use with 10 bacteria violations of 36 samples.

IMPAIRMENT SOURCE: Unknown

The source of bacteria is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Grayson
STREAM NAME: New River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N06R-03
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 5.19 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Elk Creek confluence
RIVER MILE: 151.71
LATITUDE: 36.57500 **LONGITUDE:** -81.32389

DOWNSTREAM LIMIT:

DESCRIPTION: about 3/4 miles below Town Branch confluence
RIVER MILE: 146.52
LATITUDE: 36.66460 **LONGITUDE:** -80.98240

The segment extends from the Elk Creek confluence above Riverside downstream about 3/4 miles below Town Branch confluence with New River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform, e. Coli

Ambient water quality monitoring station 9-NEW148.23 had 10 bacteria violations in 55 samples collected.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Carroll
STREAM NAME: Crooked Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N07R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 10.04 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Cranberry Creek confluence
RIVER MILE: 11.68
LATITUDE: 36.72870 **LONGITUDE:** -80.86310

DOWNSTREAM LIMIT:

DESCRIPTION: backwaters of Byllsby Dam
RIVER MILE: 1.64
LATITUDE: 36.77900 **LONGITUDE:** -80.92170

This is the lower segment of Crooked Creek which extends from the backwaters to Byllsby Lake on New River upstream to Cranberry Creek near the bridge on Route 707 in Carroll County.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient water quality monitoring station 9-CRK003.00 had 3 bacteria violations in 28 samples. This section is also a 'Water of Concern' for exceedances found from PCB data in sediments and fish tissue at the same station. These results are reported as an 'Observed Effect' in the 2004 Integrated Report.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Carroll
STREAM NAME: Crooked Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N07R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 10.77 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Headwaters
RIVER MILE: 27.93
LATITUDE: 36.62360 **LONGITUDE:** -80.81880

DOWNSTREAM LIMIT:

DESCRIPTION: Beaverdam Creek confluence
RIVER MILE: 17.16
LATITUDE: 36.70530 **LONGITUDE:** -80.82810

This is the upper segment of Crooked Creek which extends from the headwaters to its confluence with Beaverdam Creek just south of Woodlawn. The stream parallels Routes 713 and 620 in Carroll County.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient water quality monitoring station 9-CRK020.79 has 2 bacteria violations in 9 samples.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Wythe
STREAM NAME: Mill Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N08R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 3.64 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Route 605 Bridge
RIVER MILE: 3.64
LATITUDE: 36.88580 **LONGITUDE:** -80.96200

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.00
LATITUDE: 36.85500 **LONGITUDE:** -80.92930

Mill Creek extends upstream from Route 605 bridge south of its intersection with Route 94 in Carroll County. It extends to its confluence with New River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient water quality monitoring station 9-MRN000.31 has 4 bacteria violations in 8 samples.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Pulaski, Wythe
STREAM NAME: New River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N08R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 5.66 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Reed Creek confluence
RIVER MILE: 113.52
LATITUDE: 36.92260 **LONGITUDE:** -80.82710

DOWNSTREAM LIMIT:

DESCRIPTION: Reed Island Creek confluence
RIVER MILE: 107.86
LATITUDE: 36.93380 **LONGITUDE:** -80.74940

This segment extends between Reed Creek and Reed Island Creek confluences with New River. The River flows through the communities of Barren Springs Station and Reed Junction in Wythe and Pulaski Counties.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient water quality monitoring station 9-NEW107.51 has 6 bacteria violations in 51 samples. This section is also a 'Water of Concern' for exceedances found from Zinc data at the same station. These results are reported as an 'Observed Effect' in the 2004 Integrated Report.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Carroll, Wythe
STREAM NAME: Shorts Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N08R-03
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 6.75 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Downstream of Route 746 Bridge
RIVER MILE: 6.75
LATITUDE: 36.82290 **LONGITUDE:** -80.83020

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.00
LATITUDE: 36.87110 **LONGITUDE:** -80.86790

The impairment is on the lower end of Shorts Creek from downstream of Route 746 bridge to the mouth of the stream at the New River confluence. This stream is mainly in Carroll County and flows parallel to Route 52 ending at Jackson Ferry at the Shot Tower State Park.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient water quality monitoring station 9-SRT000.12 has 5 bacteria violations in 10 samples.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Wythe
STREAM NAME: Cripple Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N09R-00
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 6.24 - Miles
INITIAL LISTING: 1998 **TMDL SCHEDULE:** 2010

UPSTREAM LIMIT:

DESCRIPTION: Dry Run confluence
RIVER MILE: 20.75
LATITUDE: 36.81944 **LONGITUDE:** -81.17389

DOWNSTREAM LIMIT:

DESCRIPTION: Francis Mill Creek confluence
RIVER MILE: 14.51
LATITUDE: 36.82389 **LONGITUDE:** -81.09944

The segment begins at the confluence with Dry Run just above the community of Speedwell on Route 21 and 749 and extends to Francis Mill Creek, near the community of Cripple Creek. The Creek roughly parallels Routes 749 and 619 in Wythe County.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Recreation Use - Not Supporting

IMPAIRMENT CAUSE: General Standard (Benthic), Total Fecal Coliform (2004)

A benthic station is located at 9-CPL018.37 which rates this segment as threatened. EPA added this segment to Part 1 of the 1998 TMDL list, based on two benthic samples, one is moderately impaired and the later one is not impaired. No additional sampling has occurred since 1998 but assessment guidance lists this as threatened and not impaired. An ambient water quality monitoring station, 9-CPL018.47 has 3 bacteria violations in 9 samples so this segment has a second impairment parameter in 2004.

IMPAIRMENT SOURCE: Unknown, Unknown

EPA overlisted in 1998. The 2002 305(b) assessment reports this segment as threatened and not partially impaired. More data is needed to make a determination. The source for bacteria violations is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Smyth, Wythe
STREAM NAME: Cripple Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N09R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 4.99 - Miles
INITIAL LISTING: 2004
TMDL SCHEDULE: 2016
UPSTREAM LIMIT:

DESCRIPTION: Headwaters
RIVER MILE: 33.09
LATITUDE: 36.84270
LONGITUDE: -81.32270

DOWNSTREAM LIMIT:

DESCRIPTION: Blue Spring Creek confluence
RIVER MILE: 28.10
LATITUDE: 36.81220
LONGITUDE: -81.25690

This segment is in the headwaters of Cripple Creek downstream to Blue Spring Creek near the intersection of Routes 749 and 692 in western Wythe County.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

An ambient water quality monitoring station, 9-CPL028.10 has 2 bacteria violations in 9 samples.

IMPAIRMENT SOURCE: Unknown

The source for bacteria violations is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Wythe
STREAM NAME: Cripple Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N09R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 3.09 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Dean Branch confluence
RIVER MILE: 3.09
LATITUDE: 36.85960 **LONGITUDE:** -80.98230

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.00
LATITUDE: 36.85600 **LONGITUDE:** -80.94060

This segment is from Dean Branch near the community of Porters Crossroads to New River confluence just downstream of Ivanhoe. It is the lower end of Cripple Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

An ambient water quality monitoring station, 9-CPL001.03 has 2 bacteria violations in 9 samples.

IMPAIRMENT SOURCE: Unknown

The source for bacteria violations is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Wythe
STREAM NAME: Slate Spring Branch
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N09R-03
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 5.69 - Miles
INITIAL LISTING: 2004
TMDL SCHEDULE: 2016
UPSTREAM LIMIT:

DESCRIPTION: Headwaters

RIVER MILE: 5.89

LATITUDE: 36.87120

LONGITUDE: -81.12390

DOWNSTREAM LIMIT:

DESCRIPTION: Cripple Creek confluence

RIVER MILE: 0.00

LATITUDE: 36.84090

LONGITUDE: -81.05000

The entire stream is included in the impaired segment. This stream is in Wythe County and flows along Route 642 to Eagle Cliff.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

An ambient water quality monitoring station, 9-SPB000.1 has 7 bacteria violations in 9 samples. This section is also a 'Water of Concern' for 2 of 9 exceedances found from total phosphorus (TP) data at the same station. These results are reported as an 'Observed Effect' in the 2004 Integrated Report.

IMPAIRMENT SOURCE: Unknown

The source for bacteria violations is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Wythe
STREAM NAME: Reed Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N10R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 1.37 - Miles
INITIAL LISTING: 2002
TMDL SCHEDULE: 2014
UPSTREAM LIMIT:

DESCRIPTION: Pine Run confluence
RIVER MILE: 33.74
LATITUDE: 36.92972
LONGITUDE: -81.13250

DOWNSTREAM LIMIT:

DESCRIPTION: Venrick Run confluence
RIVER MILE: 32.37
LATITUDE: 36.91472
LONGITUDE: -81.11944

The segment begins at the confluence with Pine Run near the Pine Ridge gap that and extends to Venrick Run. This segment of Reed Creek is in a Public Water Supply for Wythe. It flows through the small community of Petunia just to the west of Wytheville.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

An ambient station located at 9-RDC033.94 has 3 of 15 fecal coliform violations. This segment is in the public water supply for Wytheville.

IMPAIRMENT SOURCE: NPS - Agriculture

The land use is agriculture.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Wythe
STREAM NAME: Reed Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N11R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 9.77 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Glade Creek confluence
RIVER MILE: 9.77
LATITUDE: 36.93560 **LONGITUDE:** -80.89800

DOWNSTREAM LIMIT:

DESCRIPTION: New River confluence
RIVER MILE: 0.00
LATITUDE: 36.92290 **LONGITUDE:** -80.82800

This segment is on the lower end of Reed Creek before its confluence with New River. It flows through the community of Allison on Route 618 and 611.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform, e. Coli

U.S.G.S. station 03167000 has 4 fecal violations in 12 samples and 6 e.coli violations in 12 samples on Reed Creek. This section is also a 'Water of Concern' for exceedances found from PCB sediment data. These results are reported as an 'Observed Effect' in the 2004 Integrated Report.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Carroll
STREAM NAME: Big Reed Island Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAS-N14R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 7.48 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Snake Creek confluence
RIVER MILE: 31.79
LATITUDE: 36.74410 **LONGITUDE:** -80.62850

DOWNSTREAM LIMIT:

DESCRIPTION: Bobbitt Creek confluence
RIVER MILE: 24.31
LATITUDE: 36.79870 **LONGITUDE:** -80.65080

The Snake Creek confluence is just above the Route 663 bridge on Big Reed Island Creek at the upper end of the segment. The lower end of the segment is at the confluence with Bobbit Creek just downstream of the Route 221 bridge. The stream flows to the east of the community of Red Hill.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

An ambient water quality monitoring station 9-RIC029.23 has 2 bacteria violations in 14 samples.

IMPAIRMENT SOURCE: Unknown

The source is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Bland, Giles
STREAM NAME: Kimberling Creek
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N26R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 9.18 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014
UPSTREAM LIMIT:

DESCRIPTION: Nobusiness Creek confluence
RIVER MILE: 9.18
LATITUDE: 37.17833 **LONGITUDE:** -80.96111

DOWNSTREAM LIMIT:

DESCRIPTION: Walker Creek confluence
RIVER MILE: 0.00
LATITUDE: 37.16040 **LONGITUDE:** -80.86920

In 2002, the segment began at the confluence of Nobusiness Creek and ended at confluence with Dismal Creek. These tributaries flow from Jefferson National Forest and the segment is north of Route 42, parallel to Routes 606 and 608 at the Giles County border. Data indicates the segment should extend downstream to its Walker Creek confluence. Therefore the segment is longer in 2004.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient monitoring stations at 9-KBL001.67 has 2 bacteria violations in 8 samples and 9-KBL007.29 has 6 bacteria violations in 19 samples. Station 9-KBL001.67 is closer to the confluence with Wolf Creek and is listed for the first time this assessment cycle. Thus the lower segment of Kimberling Creek is included in the TMDL segment which was initially listed in 2002.

IMPAIRMENT SOURCE: NPS - Agriculture

The landuse along the stream is predominately agricultural.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Bland
STREAM NAME: Wolf Creek
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N30R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 8.97 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014

UPSTREAM LIMIT:

DESCRIPTION: Unnamed Tributary downstream of Carter Branch confluence
RIVER MILE: 40.06
LATITUDE: 37.14833 **LONGITUDE:** -81.24833

DOWNSTREAM LIMIT:

DESCRIPTION: Hunting Camp Creek confluence
RIVER MILE: 31.09
LATITUDE: 37.17028 **LONGITUDE:** -81.14139

This segment begins at the confluence with an unnamed tributary downstream of Carter Branch and flows along Route 614 through Grapefield to Bastian where it ends at the confluence with Hunting Camp Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

The ambient monitoring station, 9-WFC032.47, had 2 of 13 fecal coliform violations.

IMPAIRMENT SOURCE: NPS - Agriculture

The landuse along the stream is predominately agricultural.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Bland
STREAM NAME: Hunting Camp Creek
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N31R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 8.45 - Miles
INITIAL LISTING: 1998 **TMDL SCHEDULE:** 2006

UPSTREAM LIMIT:

DESCRIPTION: Hunting Camp Creek impoundment
RIVER MILE: 8.45
LATITUDE: 37.10306 **LONGITUDE:** -81.23417

DOWNSTREAM LIMIT:

DESCRIPTION: Wolf Creek confluence
RIVER MILE: 0.00
LATITUDE: 37.17028 **LONGITUDE:** -81.14167

This segment begins at the impoundment on Hunting Camp Creek above the community of Suiter, and continues to its mouth at Wolf Creek. It flows through the community of Bastian. This segment has been extended an additional 1.21 miles on the basis of a landuse survey.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Recreation Use - Not Supporting

IMPAIRMENT CAUSE: General Standard (Benthic), Total Fecal Coliform

The biological monitoring station, 9-HCC001.40, was sampled twice and found moderately impaired. Observed effects include sedimentation and siltation in this reach. A second station, 9-HCC000.16, was sampled once and also assessed as moderately impaired. This segment has been extended an additional 1.21 miles on the basis of a landuse survey. Ambient samples at station 9-HCC001.40 have 6 bacteria violations in 14 samples.

IMPAIRMENT SOURCE: NPS - Agriculture, NPS - Urban

The landuse along the stream is predominately pasture with erosion and sedimentation occurrences. There are also urban influences, as it flows through Bastian, that contribute to the impairment. In 2003, the sewer hook-ups were made for the new Bastian WWTP. This should alleviate some of the degradation.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Bland
STREAM NAME: Laurel Creek
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N33R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 1.61 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014

UPSTREAM LIMIT:

DESCRIPTION: Dry Fork confluence
RIVER MILE: 1.61
LATITUDE: 37.25472 **LONGITUDE:** -81.11583

DOWNSTREAM LIMIT:

DESCRIPTION: Wolf Creek confluence
RIVER MILE: 0.00
LATITUDE: 37.24250 **LONGITUDE:** -81.10167

This segment begins at the confluence of Dry Fork at North Gap along Route 52. The segment ends at Rocky Gap at Interstate 77 at the Wolf Creek confluence.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform

Ambient samples at station 9-LAC00.56 have 3 bacteria violations in 14 samples.

IMPAIRMENT SOURCE: Unknown

Source of the fecal violations is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Tazewell
STREAM NAME: Bluestone River
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N36R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 6.05 - Miles
INITIAL LISTING: 1996 **TMDL SCHEDULE:** 2004

UPSTREAM LIMIT:

DESCRIPTION: Wrights Valley Creek confluence
RIVER MILE: 27.76
LATITUDE: 37.24944 **LONGITUDE:** -81.28750

DOWNSTREAM LIMIT:

DESCRIPTION: Watershed N37R boundary
RIVER MILE: 21.71
LATITUDE: 37.28583 **LONGITUDE:** -81.31333

This is a portion of an 6.65 mile segment which extends from Wrights Valley Creek confluence, near the western Bluefield city limit, to the N37 watershed limit at Big Creek. Only 6.05 miles are in N36 the remainder are in N37.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Aquatic Life Use - Not Supporting, Fish Consumption Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform, General Standard (Benthic), Fish Tissue - PCBs

An ambient water quality monitoring station, 9-BST023.05, has 16 fecal coliform violations in 35 samples. Additionally, a biological monitoring station, 9-BST022.27, was assessed as moderately impaired in June 1997. This section is also a 'Water of Concern' for exceedances found from PCBs in fish tissue at 9-BST021.26 and sediment exceedences for DDT and chlordane data. These results are reported as an 'Observed Effect' in the 2004 Integrated Report. The Bluestone River has been contracted for TMDL study which should be completed in April of 2004.

IMPAIRMENT SOURCE: NPS - Urban

Urban nonpoint sources, raw sewage discharges from both Bluefield STP pump station overflows and West Virginia communities are the sources of fecal coliform violations.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Tazewell
STREAM NAME: Bluestone River
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N36R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 1.63 - Miles
INITIAL LISTING: 2002
TMDL SCHEDULE: 2014
UPSTREAM LIMIT:

DESCRIPTION: Bluefield Intake
RIVER MILE: 29.39
LATITUDE: 37.23694
LONGITUDE: -81.28500

DOWNSTREAM LIMIT:

DESCRIPTION: Wrights Valley Creek confluence
RIVER MILE: 27.76
LATITUDE: 37.24944
LONGITUDE: -81.28750

This segment extends from the confluence with Dill Springs Run, just above the water intake, to the confluence with Wrights Valley Creek in Bluefield.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Fish Consumption Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform, General Standard (Fish Tissue)

An ambient water quality monitoring station, 9-BST029.57, has 9 fecal coliform violations of 34 samples. A fish tissue station at 9-BST029.71 is also in this segment. Based on fish tissue PCB results, The Virginia Department of Health includes this segment in a PCB fish advisory. The Southwest Regional Office is researching possible sources of the PCB contamination through local contacts in the watershed.

IMPAIRMENT SOURCE: NPS - Urban, Unknown

There is housing all along the riverbank, thus urban nonpoint impacts are suspected as the source. Another possible source of fecal coliform violations is the golf course waterfowl population that is adjacent to the monitoring station.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Tazewell
STREAM NAME: Bluestone River
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N36R-03
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 4.93 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2004

UPSTREAM LIMIT:

DESCRIPTION: Route 460 Bridge
RIVER MILE: 34.32
LATITUDE: 37.21750 **LONGITUDE:** -81.34750

DOWNSTREAM LIMIT:

DESCRIPTION: Public Water Intake
RIVER MILE: 29.39
LATITUDE: 37.23694 **LONGITUDE:** -81.28500

The segment begins at the Route 460 bridge just above Route 744 and extends downstream to just above the public water intake in Bluefield.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Not Supporting, Recreational Use - Not Supporting

IMPAIRMENT CAUSE:

 Fish Tissue, Total Fecal Coliform

A fish tissue station at 9-BST029.71, has fish tissue values above the threshold, resulting in a fish advisory from the Virginia Department of Health. This segment also is considered impaired for bacteria based on the station 9-BST029.57 which had 9 bacteria violations in 34 samples.

IMPAIRMENT SOURCE:

 Unknown, Unknown

Urban nonpoint impacts are suspected as the source.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Tazewell
STREAM NAME: Laurel Fork
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N37R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 2.91 - Miles
INITIAL LISTING: 1994
TMDL SCHEDULE: 2006
UPSTREAM LIMIT:

DESCRIPTION: Route 644

RIVER MILE: 2.84

LATITUDE: 37.29450

LONGITUDE: -81.36200

DOWNSTREAM LIMIT:

DESCRIPTION: Bluestone River confluence

RIVER MILE: 0.00

LATITUDE: 37.31222

LONGITUDE: -81.33444

This segment extends from Pocahontas High School, on Route 644, through Pocahontas to the confluence with Bluestone River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, General Standard (Benthic), Total Fecal Coliform

The ambient water quality monitoring station, 9-LRR002.19, has dissolved oxygen violations and 3 fecal coliform violations in 21 samples. This segment is also listed as a 'Water of Concern' for sediment exceedences of total phosphorus (TP) data. In 2002 sediment samples indicate that there are exceedences for lead, zinc, cadmium, chromium, and copper. These results are reported as an 'Observed Effect' in the 2004 Integrated Report. A biological monitoring station, 9-LRR001.39, indicates the segment is severely impaired.

IMPAIRMENT SOURCE: NPS - Urban, NPS - Urban

The source for the fecal coliform violations in this segment are urban nonpoint and overflows from the municipal collection system. Pocahontas STP has a history of operational problems and violations of their discharge limits. Resource extraction has been a major land use in the watershed for nearly a century. The biological habitat within this section is severely stressed due to both urban land uses and probably resource extraction. Channel modifications and lack of riparian zone buffers are some of the results of urban encroachment.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Tazewell
STREAM NAME: Bluestone River
HYDROLOGIC UNIT: 05050002
TMDL ID: VAS-N37R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 0.6 - Miles
INITIAL LISTING: 1996 **TMDL SCHEDULE:** 2004

UPSTREAM LIMIT:

DESCRIPTION: VAS-N37R boundary
RIVER MILE: 21.71
LATITUDE: 37.28583 **LONGITUDE:** -81.31333

DOWNSTREAM LIMIT:

DESCRIPTION: West Virginia state line
RIVER MILE: 21.11
LATITUDE: 37.29056 **LONGITUDE:** -81.30722

The segment falls in two watersheds and begins at the confluence with Wrights Valley Creek then extends to the state line across the watershed boundary of VAS-N36R and VAS-N37R.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Fish Consumption Use - Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Total Fecal Coliform, Fish Tissue - PCBs, General Standard (Benthic, chlordane)

An ambient water quality monitoring station, 9-BST023.05, has fecal coliform violations. Additionally, there is a biological monitoring station, 9-BST022.27, which is assessed as moderately impaired. Also the fish consumption advisory from VDH extends to the state line from N36R at the Route 460 bridge. The segment is also a 'Water of Concern' due to DDT, PCBs and Chlordane detected in sediments. They are reported as 'Observed Effects in the 2004 integrated report.

IMPAIRMENT SOURCE: NPS - Urban, Unknown, NPS - Urban

Urban nonpoint sources and raw sewage discharges from both Bluefield STP pump station overflows and West Virginia communities are the sources of fecal coliform violations. Sources for Benthic impacts are also probably urban nonpoint. The source of PCBs in the fish tissue are unknown, however, the Southwest Regional Office is researching historic sources of PCB contamination in the watershed.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Pulaski
STREAM NAME: Claytor Lake - New River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N16L-01N
ASSESSMENT CATEGORY: 5C/4C
SEGMENT SIZE: 4139.25 - Acres
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014

UPSTREAM LIMIT:

DESCRIPTION: Claytor Lake backwaters.
RIVER MILE: 104.56
LATITUDE: 36.93861 **LONGITUDE:** -80.73957

DOWNSTREAM LIMIT:

DESCRIPTION: Claytor Dam.
RIVER MILE: 87.14
LATITUDE: 37.07528 **LONGITUDE:** -80.58515

The segment begins at the upstream end of the WQS public water supply PWS designation for the Pulaski County PSA and extends downstream to Claytor Dam. The segment spans the Hiwassee, Dublin and Radford South Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: pH - 1809.38 acres / Dissolved Oxygen 3975.52 acres

DEQ stations and locations are listed below. Stations ending in "TL" are surface collections and "BL" are same site collections at depth. Stations with neither suffix are surface collections.

DEQ Stations

9-NEW087.14-TL - Under Power Lines above Dam
9-NEW087.14-BL
9-NEW088.86 - Claytor Lake at Dam (2000 fish tissue & sediment)
9-NEW089.34-TL - Line Between Beach and Inlet
9-NEW089.34-BL
9-NEW092.66-TL - Dublin Water Works
9-NEW092.66-BL
9-NEW098.32-TL - Route 672 Bridge
9-NEW098.32-BL
9-NEW105.05-TL - New R. - Claytor Lake (2000 fish tissue)
9-NEW105.05-BL - (Two sediment collections only)

Aquatic Life Use

Top Layer:

Dissolved oxygen in the surface layer exceeds the minimum 4.0 mg/l criterion for Class IV waters. Surface excursions are determined using profile data above the thermocline at each station. Described below are the number of dissolved oxygen exceedances / total observations. These excursions are evaluated using the Carlson Trophic State Index described below and are categorized 4C.

9-NEW087.14-BL - 41 / 156.

Fact Sheets for Category 5 Waters

9-NEW089.34-BL - 23 / 150.
9-NEW092.66-BL - 20 / 143.
9-NEW098.32-BL - 23 / 187.

Water flows through Claytor Dam were reduced due to drought conditions (4C) from 1999 through 2002. The summer of 2002 was particularly dry (June through August). New River stream flows as measured at the US Geological Survey station 03168000 in Allisonia (upstream of Claytor Lake) records 29 days of daily mean average flows below the 7Q10 of 722 cubic feet per second (cfs) within the 92 day period. Downstream station 03171000 at Radford records 24 days below the 7Q10 of 912 cfs. 7Q10 is lowest stream flow averaged over seven consecutive days that are statistically expected to occur once every 10 climatic years.

Station 9-NEW087.14-TL with a maximum alkaline exceedance of 9.5 records five exceedances of the pH 6.0-9.0 Standard Unit (SU) range criterion from 40 measurements. Station 9-NEW089.34-TL, although fully supporting (<10.5 percent), reports 3 of 39 measurements exceeding the alkaline criterion with a maximum value of 9.30 SU. The aquatic life use is impaired based on these results- Category 5C. The believed naturally occurring impairment extends from the former Klopman (Burlington) water intake (37°04'00.71" / 80°39'13.20") downstream to the dam (37°04'31.32" / 80°35'04.86") a total of 1809.38 acres or a distance of 5.64 miles.

Bottom Layer:

Dissolved oxygen in the bottom layer of the reservoir exceeds the 4.0 mg/l minimum criterion for Class IV waters. Exceedances occur in the late spring, summer and early fall. Dissolved oxygen depletion below the thermocline is a natural occurrence in reservoirs. Water Quality Standards do not specifically address the maintenance of dissolved oxygen levels (stratification) in a reservoir bottom layer. The minimum criterion, based on Class of water, applies to all waters in the Commonwealth. Depth profiles presented below record multiple dissolved oxygen measurements in excess of the criterion (# dissolved oxygen exceedances / total observations). Exceedances of the minimum criterion are believed to occur in the entirety of the segment even though dissolved oxygen measurements have not been conducted to determine the upper limit of the impairment. The waters do not support the aquatic life use based on the existing Class IV dissolved oxygen minimum criterion and the natural depletion of oxygen at depth in reservoirs. The 2002 dissolved oxygen impairment remains.

Bottom Layer

9-NEW087.14-BL - 85 / 131.
9-NEW089.34-BL - 67 / 114.
9-NEW092.66-BL - 60 / 92.
9-NEW098.32-BL - Not Stratified.

The Carlson Trophic State Index (TSI) is used to determine the cause of the dissolved oxygen impairment eg. natural or anthropogenic in nature. The following are the index scores from four stations where CA = chlorophyll (a), TP = total phosphorus and SD = sechi disk (transparency).

New River

9-NEW087.14-TL CA [50.73] TP [45.83] SD [47.87].
9-NEW089.34-TL CA [50.85] TP [45.28] SD [49.43].
9-NEW092.66-TL CA [50.69] TP [45.28] SD [48.46].
9-NEW098.32-TL CA [52.28] TP [57.10] SD [52.78].

TSI scores below 60 indicate a natural aging process in the reservoir while above 60 indicates man's activities on the land may be influencing the natural aging of the reservoir. The data above, primarily SD, indicates a natural aging process for the New River portion of Claytor Lake- Category 4C.

The upper portion of Claytor Lake is a 'Water of Concern' based on sediment exceedances of the Consensus Based Probable Effects Concentration (PEC) [MacDonald et al., 2000] screening values (SVs) for nickel (Ni) and zinc (Zn). Station 9-NEW098.32 records sediment Ni at 49.8 parts per million (ppm) in excess of the PEC SV of 48.6. Station 9-NEW105.05 finds Zn in excess of the PEC SV of 459 ppm at 505 and 481 ppm. These results are reported as 'Observed Effects'. The 'Water of Concern' extends from the backwaters of Claytor Lake downstream to approximately 0.5 miles downstream of the end of Rt. 651 (36°59'33.78" / 80°42'56.93"). A total of 834.1 acres or 7.46 miles.

Fish Consumption Use

2000 fish collections at 9-NEW105.05-TL and 9-NEW088.86 find polychlorinated biphenyls (PCBs) in excess of the human health-risk carcinogenic WQS tissue value (TV) of 54 parts per billion (ppb) [Table 6(a), 2004 Assessment Guidance] in tissue from carp at each station. These data are reported as 'Observed Effects'. Fish tissue results are 139 ppb at 9-NEW105.05-TL from a total of 24 fish representing four species. 9-NEW088.86 reports 223 ppb from a total of 26 fish representing four species. The entire Lake is a 'Water of Concern' based on these results.

IMPAIRMENT SOURCE: Unknown, Natural / Stratification

Aquatic Life Use

The exact source of the pH alkaline exceedance is not known but is believed due to natural conditions created in reservoirs.

Bottom dissolved oxygen depletion occurs naturally in reservoirs due to stratification.

Informational Note: Claytor Lake (New River portion) is designated by Virginia's Water Quality Standards as a Nutrient Enriched Water (9 VAC 25-260-350 A.4 and A.5.; NEW-4).

Fact Sheets for Category 5 Waters

The exact source(s) of the sediment metals exceedances are unknown.

Fish Consumption Use

The exact source(s) of PCB contamination is unknown.

The Virginia Department of Health (VDH) PCB action level is 600 ppb in fish tissue. PCBs are a group of man-made industrial chemicals that exist as a mixture and may contain up to 209 individual compounds. Since 1977, PCBs have not been produced in the U.S., but are still found in the environment. PCBs were once widely used as coolants and lubricants in transformers, capacitors and other electrical equipment. Other information on VDH fish consumption advisories, prohibitions or bans can be viewed at <http://www.vdh.state.va.us>

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Pulaski
STREAM NAME: Claytor Lake - Peak Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N16L-02
ASSESSMENT CATEGORY: 5A/4C
SEGMENT SIZE: 323.24 - Acres
INITIAL LISTING: 2002
TMDL SCHEDULE: 2014

UPSTREAM LIMIT:

DESCRIPTION: Backwaters of Claytor Lake Peak Cr. arm.

RIVER MILE: 5.42

LATITUDE: 37.04639

LONGITUDE: -80.72782

DOWNSTREAM LIMIT:

DESCRIPTION: Peak Cr. mouth on New R.

RIVER MILE: 0.00

LATITUDE: 37.05056

LONGITUDE: -80.67164

The segment begins at Peak Creek's backwaters of Claytor Lake and ends at Peak Creek's mouth on the New River in Claytor Lake. The entire segment is on the Dublin Quad.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Fish Tissue - PCBs, Dissolved Oxygen (Bottom 2002)

Fish Consumption Use

2000 collections at 9-PKC007.82 (Rt. 99 Bridge) and 9-PKC004.65 (Rt. 100 Bridge) each reveal polychlorinated biphenyls (PCBs) in excess of the human health-risk carcinogenic WQS tissue value (TV) of 54 parts per billion (ppb) [Table 6(a), 2004 Assessment Guidance] from two species. 9-PKC007.82 (VAW-N17R) from a total of 37 fish representing six species finds Smallmouth bass with 71.4 ppb. 9-PKC004.65 reports carp with 150 ppb from a total of 36 fish representing 5 species. Due to the proximity of the stations and two species found with PCBs the segment does not support the fish consumption use. The fish consumption impairment extends upstream to approximately 0.20 miles downstream of the Washington Avenue bridge in Pulaski. There is no Virginia Department of Health (VDH) Advisory as tissue concentrations are below the VDH action level of 600 ppb. Information on the fish tissue sampling program can be viewed at <http://www.deq.state.va.us/water/>

Aquatic Life Use

Top Layer:

Dissolved oxygen in the surface layer exceeds the minimum 4.0 mg/l criterion for Class IV waters. Surface excursions are determined using profile data above the thermocline at each station. 9-PKC000.00 exceeds the minimum criterion in 22 of 145 measurements. These excursions are evaluated using the Carlson Trophic State Index described below and are categorized 4C.

Water flows through Claytor Dam were reduced due to drought conditions (4C) from 1999 through 2002. The summer of 2002 was particularly dry (June through August). New River stream flows as measured at the US Geological Survey station 03168000 in Allisonia (upstream of Claytor Lake) records 29 days of daily mean average flows below the 7Q10 of 722 cubic feet per second (cfs) within the 92 day period. Downstream station 03171000 at Radford records 24 days below the 7Q10 of 912 cfs. 7Q10 is lowest stream flow averaged over seven consecutive days that are statistically expected to occur once every 10 climatic years.

Bottom Layer:

Fact Sheets for Category 5 Waters

Dissolved oxygen in the bottom layer of the reservoir exceeds the 4.0 mg/l minimum criterion for Class IV waters. Exceedances occur in the late spring, summer and early fall. Dissolved oxygen depletion below the thermocline is a natural occurrence in reservoirs. Water Quality Standards do not specifically address the maintenance of dissolved oxygen levels (stratification) in a reservoir bottom layer. The minimum criterion, based on Class of water, applies to all waters in the Commonwealth. Depth profiles at 9-PKC000.00 report 39 of 57 dissolved oxygen measurements in excess of the criterion. Exceedances of the minimum criterion are believed to occur in the entirety of the segment even though dissolved oxygen measurements have not been conducted throughout its length. The waters do not support the aquatic life use based on the existing Class IV dissolved oxygen minimum criterion and the natural depletion of oxygen at depth in reservoirs. The 2002 dissolved oxygen impairment remains.

The Carlson Trophic State Index (TSI) is used to determine the cause of the dissolved oxygen impairment eg. natural or anthropogenic in nature. The following are the index scores from 9-PKC000.00 where CA = chlorophyll (a), TP = total phosphorus and SD = seechi disk (transparency).

9-PKC000.00-TL CA [52.10] TP [44.51] SD [49.31].

TSI scores below 60 indicate a natural aging process in the reservoir while above 60 indicates man's activities on the land may be influencing the natural aging of the reservoir. The data above, primarily SD, indicates a natural aging process for the Peak Creek portion of Claytor Lake- Category 4C.

These waters are also a 'Water of Concern' based on excursions of the Consensus Based Probable Effects Concentration (PEC) [MacDonald et al., 2000] screening values (SVs). 'Observed Effects' are reported for copper (Cu), lead (Pb) and zinc (Zn) in parts per million (ppm) from stations 9-PKC004.65 and 9-PKC004.16. The PEC screening values are Cu- 149 ppm; Pb- 128 ppm and Zn- 459 ppm.

2000 sediment collections made in concert with fish tissue at 9-PKC004.65 report from two collections Cu results at 326 and 327 ppm and Zn at 894 and 886 ppm. Station 9-PKC004.16 1999 ambient collections find Cu at 322 and Zn at 831 ppm. And 1998 ambient collections report Cu at 610, Zn at 1470 and Pb at 230 ppm. Station 9-PKC000.00-BL reports no excursions from 1999 ambient sediment collections. 1998 sediment reveals an excursion of Zn SV at 520 ppm.

IMPAIRMENT SOURCE: Unknown, Natural / Stratification

Fish Consumption Use

The exact source(s) of the PCB contamination is unknown.

The Virginia Department of Health (VDH) PCB action level is 600 ppb in fish tissue. PCBs are a group of man-made industrial chemicals that exist as a mixture and may contain up to 209 individual compounds. Since 1977, PCBs have not been produced in the U.S., but are still found in the environment. PCBs were once widely used as coolants and lubricants in transformers, capacitors and other electrical equipment. Other information on VDH fish consumption advisories, prohibitions or bans can be viewed at <http://www.vdh.state.va.us>

Aquatic Life Use

Bottom dissolved oxygen depletion occurs naturally in reservoirs due to stratification.

Informational Note: Claytor Lake (Peak Creek portion) is designated by Virginia's Water Quality Standards as a Nutrient Enriched Water (9 VAC 25-260-350 A.4 and A.5.; NEW-5).

The exact source of the sediment metal PEC SV excursions is not known but is believed from legacy sources along the banks of Peak Creek.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Pulaski
STREAM NAME: New River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N16R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 0.81 - Miles
INITIAL LISTING: 1998 **TMDL SCHEDULE:** 2010

UPSTREAM LIMIT:

DESCRIPTION: Big Reed Island Cr. Confluence
RIVER MILE: 107.75
LATITUDE: 36.93472 **LONGITUDE:** -80.74990

DOWNSTREAM LIMIT:

DESCRIPTION: Claytor Lake backwaters
RIVER MILE: 106.94
LATITUDE: 36.93889 **LONGITUDE:** -80.73961

This segment of the New River is between the Big Reed Island Creek confluence, near Route 100, and the backwaters of Claytor Lake near the Wythe/Pulaski county line.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria (2004), General Standard (Benthic 1998)

Recreational Use

Station 9-NEW107.51 located at the US Geological Survey gaging station finds six of 53 fecal coliform bacteria observations exceed the WQS instantaneous criterion of 400 cfu/100 ml. Fecal coliform excursions range from 580 to >8000 cfu/100 ml. One of six *Escherichia coli* bacteria (*E. coli*) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml. The data are insufficient to assess.

One of six observations of fecal coliform also exceed the WQS instantaneous criterion at the boat landing off Rt. 693 in Allisonia at station 9-NEW106.83. These results in conjunction with 9-NEW107.51 cause the segment to not support the recreational use and is a 2004 addition to the segment.

Note: This section of the New River was contained in the 1999 Federal Consent Decree Attachment B List for fecal coliform bacteria. The 2002 Assessment found the recreational use fully supported. Station 107.51 found only three of 52 samples in excess of the former WQS fecal coliform 1000 n/100 ml instantaneous criterion. The segment was therefore not 303(d) listed in 2002.

Aquatic Life Use

A biological monitoring station, 9-NEW107.65 (near Allisonia gage), was rated as moderately impaired twice in 1994 and not impaired in 1997. Although the 1994 Rapid Biological Protocol II (RBP II) surveys are outside the assessment data window the waters remain impaired for the aquatic life use as insufficient data (one RBP II survey) do not allow a complete delisting. Additional RPB II survey data will allow for a more accurate determination of the aquatic life use support. The waters are thus 'impaired' for the aquatic life use based on the 1998 303(d) Listing and insufficient data to delist the segment. The segment is also adjusted to reflect the watershed boundary with N08R.

These waters are also a 'Water of Concern'. A 1999 (AQ) sediment collection exceeds the 2000 Consensus Based Probable Effects Concentrations (PEC) [MacDonald et al., 2000] screening value (SV) of 128 parts per million (ppm) for lead (Pb) at 129 ppm- 'Observed Effect'.

Fact Sheets for Category 5 Waters

IMPAIRMENT SOURCE: NPS - Agricultural / Wildlife / Domestic Septage, Unknown

Recreational Use

The exact source(s) of the bacterial contaminant is/are not known, but could include agricultural nonpoint source, failing septic systems and wildlife.

Aquatic Life Use

The exact source(s) of the General Standard (benthic) impairment is unknown. Resource extraction is a historic activity upstream of the watershed and may be the source of metal values in the sediments. Quarry and gravel industries and old iron furnaces are located in the region.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Pulaski
STREAM NAME: Peak Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N17R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 4.46 - Miles
INITIAL LISTING: 1996 **TMDL SCHEDULE:** 2010

UPSTREAM LIMIT:

DESCRIPTION: ~0.2 mi. downstream of the Washington St Bridge.
RIVER MILE: 9.88
LATITUDE: 37.04694 **LONGITUDE:** -80.77727

DOWNSTREAM LIMIT:

DESCRIPTION: Backwaters of Claytor Lake.
RIVER MILE: 5.42
LATITUDE: 37.04639 **LONGITUDE:** -80.72782

The segment extends upstream to approximately 0.2 miles downstream of the Washington Avenue Bridge on the Pulaski Quad. The segment ends at its inundation in Claytor Lake on the Dublin Quad.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Aquatic Life Use - Not Supporting, Fish Consumption Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria (2002), General Standard (Benthic 1996), Fish Tissue - PCBs (2002)

A TMDL study is currently underway to develop allocation scenarios for the Recreational (Bacteria) and Aquatic Life (Benthic) Uses discussed below. The anticipated date of completion for the TMDL Study is March 2004.

Recreational Use

Exceedances of the WQS fecal coliform bacteria instantaneous criterion of 400 cfu/100 ml are found at station 9-PKC009.29 (near radio tower - Pulaski County). Seven of 18 samples exceed the criterion. Exceeding values ranged from 700 to 6300 cfu/100 ml. The recreational use impairment is a 2002 addition.

Aquatic Life Use

Benthic impairment is suspected as attributable to metals and habitat loss. The segment incorporates two Rapid Biological Protocol II (RBP II) stations 9-PKC009.29 (near radio tower - Pulaski County) and 9-PKC007.82 (Rt. 99 Bridge east of Pulaski). Both stations show moderate impact to the benthic community. An upstream biological and AQM station at the Commerce Street Bridge (9-PKC011.11) shows no impairment. Best Professional Judgment used during many benthic assessments due to the use of metrics not in the RBP II suite such as %Ephemeroptera (mayflies), % EPT (-Hydropsychidae), and %Chironomidae.

9-PKC009.29- Bio 'MI'; moderate impairment; RBP II 5 year score 48.15; 2 year score 39.92. The use of additional metrics aided in identifying declines in sensitive taxa relative to the reference station and the upper Peak Creek station (9-PKC011.11). In 2002, the reference site for the three Peak Creek Biomonitoring stations was changed to 9-PKC011.11 since that station was determined to be minimally impacted relative to the two downstream sites. Habitat in this reach has been impacted by loss of riparian vegetation and instream cover, and increased sedimentation.

9-PKC007.80- Bio 'MI'; moderate impairment RBP II 5 year score 39.65; 2 year score 53.26. As noted above BPJ was used during many assessments due to the use of metrics not in the RBP II suite of metrics. The use of additional metrics aided in identifying declines in

Fact Sheets for Category 5 Waters

sensitive taxa relative to the reference station and the upper Peak Creek station (9-PKC011.11). Additionally, habitat in this reach has been impacted by the loss of riparian vegetation.

Peak Creek is also a 'Water of Concern' based on the sediment results presented below. 9-PKC009.29 records Consensus Based Probable Effects (PEC; MacDonald et al. 2000) exceedances from AQ sediment collections for lead (Pb) PEC SV of 128 ppm and zinc (Zn) PEC SV of 459 ppm. A 2000 collection finds Pb at 135 and Zn at 1280 ppm; a 1999 Zn at 320 ppm; and a 1998 Pb at 130 and Zn at 680 ppm resulting in an 'Observed Effect'.

9-PKC007.82- A WQS 2000 Sediment collection exceeds PEC SVs for the Metals: copper (Cu) PEC SV of 149 at 362 ppm and zinc (Zn) PEC SV of 459 at 1104 ppm. 9-PKC007.82 records organic exceedances for Phenanthrene (PEC SV 1170) at 3049 ppb, Fluoranthene (PEC SV 2230) at 5866 ppb, Pyrene (PEC SV 1520) at 3877 ppb, Benz (a) Anthracene (PEC SV 1050) at 2047 ppb and Chrysene (PEC SV 1290) at 2133 ppb also resulting in an 'Observed Effect'.

Seven Rapid Biological Protocol II benthic survey results reveal no impairment to the biota at station 9-PKC011.11 (Commerce St. Bridge) even though sediment results from AQ collections reveal excursions of PEC SVs for lead (Pb) SV of 128 ppm, zinc (Zn) SV of 459 ppm, DDD SV of 28 ppb and DDE SV 31.3 ppb. Exceeding results for metals are: A 1999 Pb at 420 and Zn at 1520 ppm; a 1998 Pb at 220 and Zn at 1080 ppm; and Organics are: A 1999 DDD at 30 and DDE at 40 ppb.

Fish Consumption Use

WQS 2000 Fish collections at 9-PKC007.82 (Rt. 99 Bridge) and 9-PKC004.65 (Rt. 100 Bridge) each reveal polychlorinated biphenyls (PCBs) in excess of the human health-risk carcinogenic tissue value (TV) of 54 parts per billion (ppb) [Table 6(a), 2004 Assessment Guidance] from two species. 9-PKC007.82 from a total of 37 fish representing six species finds Smallmouth bass with 71.4 ppb. 9-PKC004.65 (VAW-N16L) reports carp with 150 ppb from a total of 36 fish representing 5 species. The fish consumption impairment extends to the Peak Creek arm of Claytor Lake. Station 9-PKC004.65 is in Claytor Lake (VAW-N16L). Due to the proximity of the stations and two species found with PCBs the segment is impaired for the fish consumption use.

There is no Virginia Department of Health (VDH) Advisory as tissue concentrations are below the VDH action level of 600 ppb. The fish consumption impairment is a 2002 addition to the 1998 303(d) Listing. Information on the fish tissue sampling program can be viewed at <http://www.deq.state.va.us/water/>

IMPAIRMENT SOURCE: NPS - Urban, NPS - Urban / Legacy Industrial / Unknown, Unknown

Recreational Use

The source of the impairment is primarily urban nonpoint source pollution including agricultural, residential, commercial and industrial runoff.

Aquatic Life Use

General Standard (Benthic) impairment sources are urban nonpoint source pollution and nonpoint source runoff from an old industrial plant site along the banks of Peak Creek.

Sediment metals exceedances are believed to be nonpoint source runoff from an old industrial plant site along the banks of Peak Creek and/or other legacy sources. Upstream organic exceedances are unknown.

Fish Consumption Use

The exact source(s) of the PCB contamination is unknown.

The Virginia Department of Health (VDH) PCB action level is 600 ppb in fish tissue. PCBs are a group of man-made industrial chemicals that exist as a mixture and may contain up to 209 individual compounds. Since 1977, PCBs have not been produced in the U.S., but are still found in the environment. PCBs were once widely used as coolants and lubricants in transformers, capacitors and other electrical equipment. Other information on VDH fish consumption advisories, prohibitions or bans can be viewed at <http://www.vdh.state.va.us>

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Montgomery, Radford
STREAM NAME: Crab Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N18R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 12 - Miles
INITIAL LISTING: 1996 **TMDL SCHEDULE:** 2004

UPSTREAM LIMIT:

DESCRIPTION: Crab Cr. headwaters.
RIVER MILE: 12.00
LATITUDE: 37.11750 **LONGITUDE:** -80.37736

DOWNSTREAM LIMIT:

DESCRIPTION: Crab Cr. mouth on the New R.
RIVER MILE: 0.00
LATITUDE: 37.15361 **LONGITUDE:** -80.52891

The upstream limit is the Crab Creek headwaters on the Irono Quad. The downstream limit is at the Crab Creek mouth on the New River about 1.5 mi upstream of the Rt. 114 Bridge and downstream of Radford, Virginia. The segment spans the Riner, Blacksburg and Radford North Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria, General Standard (Benthic)

The TMDL Study for bacteria and benthic impairments is schedule for completion in March of 2004.

Recreational Use

Water Quality Standards (WQS) require via [9 VAC 25-260-170.A.1. Bacteria; other waters] after collection of 12 Escherichia coli (E. coli) samples only E. coli be assessed for use support in fresh water streams. E. coli sampling began February 2000. The recreational use impairment for the entirety of Crab Creek is based on E. coli. as the bacterial indicator. The WQS E. coli instantaneous criterion is 235 cfu/100 ml. Fecal coliform (FC) data below are for informational purposes only. The FC instantaneous criterion is 400 cfu/100 ml.

Located on the Rt. 111 Bridge in Christiansburg is station 9-CBC009.81. Two of three E. coli samples exceed the WQS 235 cfu/100 ml instantaneous criterion. Exceeding values are both greater than 800 cfu/100 ml. FC exceedances are found in four of eight observations. Maxima range from 600 to 3500 cfu/100 ml.

A single FC observation exceeds 400 at 2400 cfu/100 ml; Rt. 460 Christiansburg station 9-CBC008.78.

Station 9-CBC006.35 (Rt. 661 Bridge) upstream of the former Christiansburg outfall finds E. coli exceeds in eight of 16 observations. Exceeding values range from 250 to greater than 800 cfu/100 ml. Twenty of 41 fecal coliform bacteria samples exceed the criterion with maxima ranging from 500 to 11,200 cfu/100 ml.

9-CBC004.38- E. coli exceeds the instantaneous criterion in 13 of 20 observations. Exceeding values range from 380 to greater than 800 cfu/100 ml. Fecal coliform bacteria instantaneous exceedances are found in 33 of 51 samples. fecal coliform exceeding values range from 490 to greater than 2000 cfu/100 ml.

Fact Sheets for Category 5 Waters

9-CBC001.00- One E. coli exceedance (320 cfu/100 ml) is found in three samples while FC exceeds in two of nine observations. Based on the upstream station (9-CBC004.38) all indications are the recreational use remains impaired in this portion of Crab Creek.

Aquatic Life Use

Benthic impairments cause failure to meet the aquatic life use. Biomonitoring at stations 9-CBC006.35, 9-CBC004.38 and 9-CBC001.00 show moderate impacts to the benthic community for the length of the segment. Rapid Biological Protocol II Method scores are:

9-CBC006.35- RBP II 5 year score 43.65. Seasonal 5 year Spring score 45.11 and Fall score 42.19.

9-CBC004.38- RBP II 5 year score 43.75. Seasonal 5 year Spring score 47.28; Fall score 41.12.

And

9-CBC001.00- RBP II 5 year score 34.75. Seasonal 5 year Spring score 28.22; Fall score 41.31.

Scores are typically better in the fall. Likely a natural seasonal effect. Pollution tolerant families are dominant in both seasons, the midge family Chironomidae in spring and the caddisfly family Hydropsychidae in fall. Agricultural and urban NPS runoff impact Crab Creek. Habitat impacts to this reach result in fine sediment deposition that causes stream substrates to become embedded, bank erosion from altered hydrology, and degraded riparian buffers due to residences, roads, and railroad tracks. An apparent nutrient enriched environment all contributes to the benthic impairment. A regional drought during 1998 and 1999 probably adds to the aforementioned impacts on the benthic community, resulting in lower biological condition scores. Likewise, higher stream flows during the spring and summer of 2000 resulted in improved scores. The STP discharge above the monitoring station at 9-CBC004.38 was relocated and now discharges near the mouth of Crab creek and may be partly responsible for the improvement in scores.

Station 9-CBC004.38 also reports total phosphorus (TP) excursions of the 0.20 mg/l screening value (SV) in 14 of 51 samples. Twelve TP exceedances occur in 1998 prior to the removal of the Christiansburg STP outfall. The remaining two (at 0.3 mg/l each) occur after 1998. TP exceeding values range from 0.3 mg/l to 2.6. No exceedances of the chlorophyll (a) SV of 50 µg/l are observed. Upstream station 9-CBC006.35 (at Rt. 661 above the former Christiansburg STP outfall) finds three exceedances from 42 samples. The Christiansburg STP outfall has been moved to the New River in December 1998.

IMPAIRMENT SOURCE: NPS - Agriculture / Urban, NPS - Agriculture / Urban

Recreational Use

Fecal coliform sources of impairment are a mix of agricultural and urban nonpoint source runoff. Mainly urban in the upper reaches of the watershed and a mix of urban and agriculture in the lower reaches of the watershed.

Aquatic Life Use

General Standard Benthic sources of impairment are a mix of agricultural and urban nonpoint source runoff from high density areas, roads and stream bank erosion. Mainly urban in the upper reaches of the watershed and a mix of urban and agriculture in the lower reaches of the watershed.

Total phosphorus exceedances are primarily due to the Christiansburg STP former outfall on Crab Creek.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Radford
STREAM NAME: Connellys Run
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N18R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 2.76 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Near Rt. 611, 2.76 mi. upstream of Connellys Run mouth.
RIVER MILE: 2.76
LATITUDE: 37.11803 **LONGITUDE:** -80.53909

DOWNSTREAM LIMIT:

DESCRIPTION: Connellys Run mouth on the New R.
RIVER MILE: 0.00
LATITUDE: 37.14074 **LONGITUDE:** -80.56809

The segment begins near the headwaters of Connellys Run at an unnamed tributary (37°07'04" / 80°32'16") downstream to its mouth on the New River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use
Fecal coliform bacteria at 9-CNL000.01 (Bissett Park Bridge, Radford) exceeds the WQS instantaneous criterion of 400 cfu/100 ml in three of nine observations. The range of exceedances is from 500 to 1900 cfu/100 ml.

IMPAIRMENT SOURCE: NPS - Urban

Recreational Use
Urban nonpoint sources are believed to be the primary source of the FC impairment.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Montgomery, Radford
STREAM NAME: Plum Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N18R-03
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 4.5 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Plum Cr. headwaters
RIVER MILE: 4.50
LATITUDE: 37.13390 **LONGITUDE:** -80.47208

DOWNSTREAM LIMIT:

DESCRIPTION: Plum Cr. mouth on New R.
RIVER MILE: 0.00
LATITUDE: 37.13297 **LONGITUDE:** -80.52945

The upstream limit is the headwaters of Plum Creek extending downstream to its mouth on the New River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use
9-PLM000.60 located on Rt. 11 just above the mouth of Plum Creek reports fecal coliform bacteria exceedances in two of nine observations. Values in excess of the WQS 400 cfu/100 ml instantaneous criterion are 1100 and 1500 cfu/100 ml.

IMPAIRMENT SOURCE: NPS - Agriculture / Urban

Recreational Use
Fecal coliform sources of impairment are a mix of agricultural and urban nonpoint source runoff.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Floyd
STREAM NAME: Little River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N19R-01
ASSESSMENT CATEGORY: 5A/5C
SEGMENT SIZE: 10.93 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014

UPSTREAM LIMIT:

DESCRIPTION: Meadow Cr. mouth on Little R.
RIVER MILE: 63.27
LATITUDE: 36.94694 **LONGITUDE:** -80.21589

DOWNSTREAM LIMIT:

DESCRIPTION: Oldfield Cr. mouth on Little R.
RIVER MILE: 52.34
LATITUDE: 36.95806 **LONGITUDE:** -80.29876

The segment begins at the mouth of Meadow Creek on Little River and extends downstream to the mouth of Oldfield Creek. The segment spans the Endicott and Floyd Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreational Use-Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria (2004), Temperature (2002)

Recreational Use

Station 9-LRV056.74 finds two fecal coliform observations exceeding the WQS 400 cfu/100 instantaneous criterion from 11 samples (Category 5A). Values that exceed the standard are 500 and 1400 cfu/100 ml. Fecal coliform is a 2004 initial listing for this segment.

Aquatic Life Use

The aquatic life is not supported due to temperature exceedances. Station 9-LRV056.74 located at the Rt. 221 Bridge records two exceedances of the 20°C temperature natural trout criterion from 11 measurements. Exceedances occur in July 1998 (25.7°C) and (21.3 °C) in May 2000 (Category 5C). The temperature impairment was initially listed in 2002.

IMPAIRMENT SOURCE: NPS- Agriculture / Wildlife, Unknown

Recreational Use

Nonpoint sources are the suspected as causing the impairment. These sources could include agriculture and wildlife but are not confirmed.

Aquatic Life Use

The water temperature exceedances are believed to be due to natural conditions. There are no known sources of heat to cause the exceedances other than natural solar radiation.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Floyd
STREAM NAME: Dodd Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N20R-01
ASSESSMENT CATEGORY: 5D
SEGMENT SIZE: 15.41 - Miles
INITIAL LISTING: 1998
TMDL SCHEDULE: 2004
UPSTREAM LIMIT:

DESCRIPTION: Junction of Routes 710 and 714.

RIVER MILE: 15.41

LATITUDE: 36.87139

LONGITUDE: -80.29457

DOWNSTREAM LIMIT:

DESCRIPTION: Dodd Cr. mouth on West Fork Little R.

RIVER MILE: 0.00

LATITUDE: 36.93833

LONGITUDE: -80.34064

The upper limit extends from the junction of Routes 710 and 714 downstream to the Dodd Creek mouth on the West Fork Little River. The segment spans the Woolwine and Floyd Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria, Temperature (2002) - 1.18 mi.

Recreational Use

The Dodd Creek drainage bacteria Total Maximum Daily Load (TMDL) Study and allocations is complete with US EPA approval on December 11, 2002 (Category 4A). Additional bacteria sampling above and below the 1998 303(d) Dodd Creek Impaired segment has increased the original segment size by 5.98 miles. 2002 tributary additions include the West Fork of Dodd Creek (6.47 miles) and an unnamed tributary to the West Fork (0.49 miles).

Fecal coliform bacteria exceedances of both the 400 cfu/100 ml instantaneous and geometric mean 200 cfu/100 ml criteria cause the segment to not support the recreational use. The segment was originally listed based on the former fecal coliform WQS instantaneous criterion of 1000 cfu/100 ml and 200 geometric mean. Listed below are the monitored sites showing fecal coliform instantaneous excursions / with total sample collections (maximum) and geometric mean calculation exceedances / with total calculations where applicable. Instantaneous *Escherichia coli* (*E. coli*) single observations are listed next (value). Each exceed the WQS criterion of 235 cfu/100 ml. Data below reflect the 2004 Cycle data window. One ambient fixed site 9-DDD004.64 is included with the non-fixed sites below.

Dodd Creek (Category 4A)

9-DDD000.04 Rt. 698 Bridge - 4/4 instant (3500); 1/1 geomean; *E. coli* 1/1 (800).

9-DDD002.70 Rt. 696 Bridge - 4/4 instant (3100); 1/1 geomean; *E. coli* 1/1 instant (800).

9-DDD004.64 Rt. 720 Bridge above Floyd STP - 3/11 instant (1600).

9-DDD004.75 Rt. 720 Bridge - 4/4 instant (4800); 1/1 geomean; *E. coli* 1/1 instant (800).

9-DDD006.27 Rt. 8 Bridge - 3/4 instant (2600); 1/1 geomean; *E. coli* 1/1 instant (480).

9-DDD008.20 Rt. 710 Bridge - 3/3 instant (1700); 1/1 geomean.

West Fork Dodd Creek (Category 4A)

9-DDW000.02 Rt. 8 Bridge - 4/4 instant (2500); 1/1 geomean; *E. coli* 1/1 instant (800).

Fact Sheets for Category 5 Waters

9-DDW004.02 Rt. 714 Bridge - 4/4 instant (9200); 1/1 geomean; E. coli 1/1 instant (800).
9-XDC000.48 Rt. 807 Bridge - 4/4 instant (6400); 1/1 geomean; E. coli 1/1 instant (>800).

The West Fork Dodd Creek impairment extends 6.47 miles from its headwaters (36°50'03.10" / 80°20'56.09") near the Blue Ridge Parkway downstream to the West Fork mouth on Dodd Creek (36°53'15.66" / 80°19'21.17"). The unnamed tributary portion extends 0.49 miles from just upstream of the Rt. 8 crossing (36°52'18" / 080°20'03") downstream to its confluence with the West Fork Dodd Creek (36°52'33" / 080°19'43") on the Floyd Quad.

The entirety of the study can be viewed at <http://www.deq.state.va.us>.

Aquatic Life Use

Station 9-DDW000.02 records two of two temperature exceedances causing the waters to not support the aquatic life use in these natural trout waters. The WQS temperature criterion is 20°C. Exceedances occur on July 28, 1999 (23.3°C) and June 28, 2000 (20.1°C). The believed naturally impaired 1.18 mile segment extends from an unnamed tributary located at 36°52'33" / 80°19'43" downstream to the West Fork Dodd Creek confluence with Dodd Creek (Category 5C). The aquatic life use impaired segment was initially listed in 2002.

IMPAIRMENT SOURCE: NPS - Agriculture / Wildlife / Domestic Septage, Natural

Recreational Use

The source of the impairment is believed to be a mix of agricultural, wildlife and domestic septage (straight pipes noted) nonpoint source runoff.

Aquatic Life Use

The water temperature exceedances are believed due to natural conditions. There are no known sources of heat to cause exceedance of the temperature criterion other than natural solar radiation.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Montgomery, Pulaski
STREAM NAME: Little River (Riverine Only)
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N21R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 1.78 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014

UPSTREAM LIMIT:

DESCRIPTION: Meadow Creek mouth on Little R.
RIVER MILE: 3.51
LATITUDE: 37.06028 **LONGITUDE:** -80.54721

DOWNSTREAM LIMIT:

DESCRIPTION: Little River confluence on the New River (0.49 miles) riverine below the Little River Reservoir.
RIVER MILE: 0.00
LATITUDE: 37.08191 **LONGITUDE:** -80.57770

This segment begins at the mouth of Meadow Creek and extends downstream to the confluence of Little River with the New River (riverine only). The segment has been expanded by 0.49 miles, eg. downstream of Little River Reservoir. The entire segment is on the Radford South Quad.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use

Exceedances of the former WQS fecal coliform bacteria instantaneous criterion are recorded in the 2002 Assessment at the United States Geological Survey (USGS) station 03170000. Two of 14 observations exceeded the former instantaneous criterion of 1000 cfu/100 ml at that time. Application of the existing 400 cfu/100 ml instantaneous criterion would have resulted in four of 14 exceedances. Values above the 400 criterion range from 420 to 14,900 cfu/100 ml. Due to the previous 2002 Cycle impaired listing the segment remains impaired and has been expanded with the 2004 Assessment to include an additional 0.49 miles from data at station 9-LRV000.34. This Fact Sheet addresses only riverine impairments.

Station 9-LRV000.34 (Route 605 Bridge) finds four of 26 fecal coliform bacteria observations exceeding the WQS 400 cfu/100 ml instantaneous criterion. Values in excess of the WQS range from 500 cfu/100 ml to 7300. The recreational use is not supported.

IMPAIRMENT SOURCE: NPS - Agriculture / Wildlife

Recreational Use

The believed source is a mixture of nonpoint source runoff from agricultural activity and wildlife.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Montgomery
STREAM NAME: Meadow Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N21R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 4.48 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014
UPSTREAM LIMIT:

DESCRIPTION: Confluence of Mill Cr. on Meadow Cr.

RIVER MILE: 4.48

LATITUDE: 37.07083

LONGITUDE: -80.50862

DOWNSTREAM LIMIT:

DESCRIPTION: Meadow Cr. mouth on Little R.

RIVER MILE: 0.00

LATITUDE: 37.06028

LONGITUDE: -80.54721

The Meadow Creek mainstem from the Mill Creek confluence downstream to the Meadow Creek mouth on Little River. The entire segment is on the Radford South Quad.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use

Seven of 12 fecal coliform bacteria observations exceed the instantaneous criterion of 400 cfu/100 ml at 9-MDW004.62 (Rt. 600 Bridge). The geometric mean of 200 cfu/100 ml exceeds in one calculation. The waters do not support the recreational use.

IMPAIRMENT SOURCE: NPS - Agriculture / Wildlife / Domestic Septage

Recreational Use

The source of the impairment is believed to be a mix of agricultural, wildlife and domestic septage nonpoint source runoff.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Floyd, Montgomery
STREAM NAME: Little River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N21R-04
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 13.35 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Little R. at the end of Rt. 706.
RIVER MILE: 37.75
LATITUDE: 36.98669 **LONGITUDE:** -80.39244

DOWNSTREAM LIMIT:

DESCRIPTION: Confluence of Sidney Cr. on Little R.
RIVER MILE: 24.40
LATITUDE: 36.99966 **LONGITUDE:** -80.46770

The segment begins at the end of Rt. 706 downstream to the confluence of Sidney Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use

Station 9-LRV032.72 (Rt. 617 Bridge near Brush Creek) finds three of eight fecal coliform bacteria observations exceed the WQS 400 cfu/100 ml instantaneous criterion. Exceedances range from 600 to 1100 cfu/100 ml. The recreational use is not supported.

IMPAIRMENT SOURCE: NPS - Agriculture / Wildlife / Residential

Recreational Use

Agriculture, wildlife and residential nonpoint source runoff are believed to be contributing sources to the impairment.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Floyd, Montgomery
STREAM NAME: Brush Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N21R-05
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 5.76 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Brush Cr. at first bridge on Route 617 south of the junction of Routes 617 and 601.

RIVER MILE: 5.76

LATITUDE: 37.03899

LONGITUDE: -80.36817

DOWNSTREAM LIMIT:

DESCRIPTION: Brush Cr. mouth on Little R.

RIVER MILE: 0.00

LATITUDE: 37.01430

LONGITUDE: -80.40478

Brush Creek from the first bridge on Route 617 south of the junction of Routes 617 and 601 downstream to the Brush Creek mouth on Little River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use

Station 9-BSH000.05 (Rt. 617 Bridge) finds the WQS instantaneous criterion for fecal coliform bacteria, 400 cfu/100 ml, exceeded in three of eight observations. The maximum exceedance found is 1300 cfu/100 ml.

IMPAIRMENT SOURCE: NPS - Agriculture / Wildlife

Recreational Use

The believed source is a mixture of nonpoint source runoff from agricultural activity and wildlife.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Floyd
STREAM NAME: Laurel Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N21R-06
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 3.25 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Laurel Cr. headwaters
RIVER MILE: 3.25
LATITUDE: 37.03295 **LONGITUDE:** -80.28871

DOWNSTREAM LIMIT:

DESCRIPTION: Laurel Cr. mouth on Little R.
RIVER MILE: 0.00
LATITUDE: 37.00431 **LONGITUDE:** -80.37942

Laurel Creek mainstem from its headwaters NW of the Routes 608 and 673 intersection downstream to its confluence with Little River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use

Station 9-LLL000.05 finds fecal coliform bacteria exceeds the WQS 400 cfu/100 ml instantaneous criterion in four of eight observations. The exceedances range from 600 to 2800 cfu/100 ml. The recreational use is not supported.

IMPAIRMENT SOURCE: NPS - Agriculture / Wildlife / Residential

Recreational Use

Agriculture, wildlife and residential nonpoint source runoff are believed to be contributing sources to the impairment.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Floyd, Montgomery
STREAM NAME: Big Indian Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N21R-07
ASSESSMENT CATEGORY: 5C
SEGMENT SIZE: 7.58 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: 0.5 miles upstream of the West Fork Big Indian Cr.
RIVER MILE: 7.58
LATITUDE: 36.94021 **LONGITUDE:** -80.51338

DOWNSTREAM LIMIT:

DESCRIPTION: Big Indian Cr. confluence with Little R.
RIVER MILE: 0.00
LATITUDE: 36.99579 **LONGITUDE:** -80.52298

Big Indian Creek mainstem from approximately 0.5 miles upstream of the West Fork Big Indian Creek mouth downstream to the Big Indian Creek confluence with Little River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Temperature

Aquatic Life Use

Temperature excursions of the WQS stockable trout water criterion, 21°C, occur in two of eight measurements at station 9-BIC000.14. The station is located on the Rt. 787 Bridge. Temperature excursions are 24°C on 7/11/01 and 23°C on 7/10/02.

IMPAIRMENT SOURCE: Unknown

Aquatic Life Use

The exact source is unknown. Water temperature exceedances are believed to be due to natural conditions. There are no known sources of heat to cause exceedance of the temperature criterion other than natural solar radiation.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Giles, Montgomery, Pulaski
STREAM NAME: New River
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N22R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 52.08 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014

UPSTREAM LIMIT:

DESCRIPTION: Rt. 114 Bridge downstream of Crab Cr. mouth on the New R.

RIVER MILE: 75.67

LATITUDE: 37.16139

LONGITUDE: -80.55244

DOWNSTREAM LIMIT:

DESCRIPTION: VA / WVA State Line.

RIVER MILE: 23.59

LATITUDE: 37.42861

LONGITUDE: -80.85901

The segment begins at the Rt. 114 Bridge just downstream of the Crab Creek mouth (Watershed Boundary) on the New River and extends downstream to the VA / WVA State Line. The segment spans the Radford North, Eggleston, Pearisburg, Narrows and Peterstown, WVA Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Fish Consumption Use - Not Supporting, Fish Consumption Use - Not Supporting

IMPAIRMENT CAUSE: Fish Tissue - PCBs VDH Fish Consumption Advisory (2001), Fish Tissue - DDE / DDT (2004) - 9.62 mi.

Fish Consumption Use

The Virginia Department of Health (VDH) issued a fish consumption advisory on August 6, 2001 for polychlorinated biphenyls (PCBs) for this portion of the New River (Rt. 114 Bridge downstream to the VA / WVA State Line) based on fish tissue collections from Carp. The VDH advisory recommends no consumption of carp in this segment. The VDH level of concern is 600 parts per billion (ppb) in fish tissue. Analysis of sediment collections for PCBs from numerous sites within the VDH Advisory area find no exceedances of the Consensus Based Probable Effect Concentrations (PEC) screening value (SV) of 676 ppb [MacDonald et al. 2000]. Please visit <http://www.vdh.state.va.us> for more information on the advisory and <http://www.deq.state.va.us> for more information regarding fish tissue collections and data.

The fish consumption use is not supported due to exceedance of the WQS tissue values for PCBs [Table 6(a), 2004 Assessment Guidance] at the following stations. Routine 2000 fish collections in watershed VAW-N22R at 9-NEW066.90 (New River at Whitethorne) reveal PCBs in excess of the DEQ human health-risk carcinogenic screening value WQS tissue value (TV) of 54 ppb from Carp at 686 ppb. Other species at this site record the following values: Rock Bass 14.9; Northern Hogsucker 6.56; Smallmouth Bass 7.8 ppb from a total of 17 fish. 2001 tissue collections found no exceedances from 38 total fish comprised of Smallmouth Bass, White Sucker, Northern Hogsucker, Redbreast Sunfish or Rock Bass. 2002 tissue collections however do find exceedances from a total of 27 fish in five Carp at 444, 451, 461, 637 and 1056 ppb, a Channel Catfish at 355 and a Flathead Catfish at 255 ppb. Seven species were analyzed in all.

Station 9-NEW050.70 (Near Pembroke) 2001 and 2002 fish tissue collections exceed the WQS PCB TVs. 2001 collections find two Carp at 2394 and 2310 ppb and one Flathead Catfish at 89 ppb. The 2001 collection consists of 38 total fish representing six species. 2002 reports three Carp at 398, 411 and 532 ppb and one Flathead Catfish at 54 ppb exceeding and/or meeting the WQS TV for PCBs from a total of 41 fish representing seven species.

Station 9-NEW030.15 (Route 460 Bridge at Glen Lyn) reports exceedances of WQS PCB TVs in 2000, 2001 and 2002. Routine 2000 fish

Fact Sheets for Category 5 Waters

tissue collections in watershed VAW-N29R reveal PCBs in excess of the WQS TV of 54 ppb in tissue from Carp at 3259 ppb. Other species at this site from 24 total fish record the following values: Rock Bass 11.7; Smallmouth Bass 7.8; Northern Hog sucker 8.45 ppb. 2001 fish tissue exceeds for PCB in Carp at 1275, 1425, 3003 and 3121 ppb from a total of 48 fish representing six species. 2002 tissue results find PCB exceedances in Carp at 115, 1313, 2916, 4750, 6385 and 6939 ppb. Five species are analyzed from a total of 34 fish.

The fish consumption use is also impaired for the following contaminants for 9.62 miles on the New River from the mouth of Sinking Creek (RM 54.57) 37°18'18.24" / 80°37'18.32" downstream to the confluence of Stoney Creek on the New River (RM 44.95) 37°21'04.73" / 80°42'03.36". 2001 fish tissue collections find DEQ WQS TV exceedances for 2001 - two Carp for DDE (TV 320 ppb) at 355 / 326 ppb and two Carp for DDT (SV 320 ppb) at 359 / 373 ppb at 9-NEW050.70.

'Observed Effects' are also noted for the same area described above where exceedance of fish tissue screening values (TSVs) [Table 6(b), 2004 Assessment Guidance] from 2001 collections are found. Two Carp exceed the Heptachlor epoxide (TSV 10 ppb) at 54 ppb each. Thus these waters are also a Water of Concern for Heptachlor epoxide.

IMPAIRMENT SOURCE: Unknown, Unknown

Fish Consumption Use

The exact source(s) of the PCB contamination is unknown.

The Virginia Department of Health (VDH) PCB level of concern is 600 ppb in fish tissue. PCBs are a group of man-made industrial chemicals that exist as a mixture and may contain up to 209 individual compounds. Since 1977, PCBs have not been produced in the U.S., but are still found in the environment. PCBs were once widely used as coolants and lubricants in transformers, capacitors and other electrical equipment. Other information on VDH fish consumption advisories, prohibitions or bans can be viewed at <http://www.vdh.state.va.us>

The exact source(s) of DDE and DDT contamination is unknown.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Montgomery
STREAM NAME: Stroubles Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N22R-02
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 7.08 - Miles
INITIAL LISTING: 1996 **TMDL SCHEDULE:** 2004

UPSTREAM LIMIT:

DESCRIPTION: Duck Pond dam on the VPI & SU Campus
RIVER MILE: 9.59
LATITUDE: 37.22444 **LONGITUDE:** -80.42995

DOWNSTREAM LIMIT:

DESCRIPTION: Slate Branch mouth on Stroubles Cr.
RIVER MILE: 2.51
LATITUDE: 37.18028 **LONGITUDE:** -80.50450

The upstream end is at the Duck Pond dam on the southwest end of the VPI&SU campus on the Blacksburg Quad. The downstream end is at the Slate Branch mouth on Stroubles Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria (2002), General Standard (Benthic) - 4.98 mi.

Recreational Use

Fecal coliform bacteria exceedances of the 400 cfu/100 ml instantaneous criterion cause impairment of the recreational use. Station 9-STE002.41 (Rt. 659 Bridge) records four exceedances from 35 samples. Five observations of *Escherichia coli* (*E. coli*) find no excursions of the 235 cfu/100 ml instantaneous criterion. The 7.08 mile 2002 bacteria impairment extends from the Duck Pond on the VPI & SU Campus downstream to the confluence of Slate Branch.

Aquatic Life Use

The General Standard (Benthic) TMDL Study is complete. The U.S. Environmental Protection Agency approval is anticipated in January 2004. The original 1998 Listed segment continues for contravention of the General Standard (Benthic) impairment. The General Standard (Benthic) impairment extends from the Duck pond outlet downstream to the mouth of Walls Branch (37°11'45.12" / 80°28'59.64") a total of 4.98 miles.

Station 9-STE007.29 (Rt. 657 Bridge) finds moderate impairment to the biota from a total of nine Rapid Biological Protocol II (RBP II) surveys. The RBP II 5 year Spring score is 34.97; 2 year Spring score is 34.78. The RBP II 5 year Fall score is 41.32; 2 year Fall score is 63.64). The pollution tolerant caddisfly family, Hydropsychidae, is dominant in all fall surveys (average > 50% of total organisms), showing dominance by organisms that feed on suspended organic matter in the fall. Thus, this stream reach shows evidence of organic enrichment in the fall. The midge family, Chironomidae were dominant in the spring of 1999, 2000 and 2002. These organisms are tolerant of organic enrichment and low dissolved oxygen environments.

Citizen stations 9STE-3-SOS (Just before intersection of Plantation and Smithfield and 9STE-4-SOS (Downstream of 9-STE-3-SOS) both find a moderate probability of impairment at these sites. Citizen station 9-STE-5-SOS (AFS Restoration area) reports a low probability of adverse conditions. Citizen stations 9STE-6-SOS (Off Coal Hollow Rd) and 9STE-7-SOS (Off Stoubles Creek Rd) note a low probability for adverse conditions. However, the waters do not support the aquatic life use.

Fact Sheets for Category 5 Waters

IMPAIRMENT SOURCE: NPS - Agriculture / Urban, NPS - Agriculture / Urban

Recreational Use

The believed source is nonpoint source pollution from agricultural activity and increased urbanization of the upper portion of the watershed.

Aquatic Life Use

The General Standard (Benthic) impairment source is believed to be a mixture of agricultural and urban nonpoint source runoff.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Pulaski
STREAM NAME: Back Creek
HYDROLOGIC UNIT: 05050001
TMDL ID: VAW-N22R-03
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 16.37 - Miles
INITIAL LISTING: 1996 **TMDL SCHEDULE:** 2004

UPSTREAM LIMIT:

DESCRIPTION: 0.70 miles below Rt. 636 crossing
RIVER MILE: 16.37
LATITUDE: 37.12583 **LONGITUDE:** -80.77583

DOWNSTREAM LIMIT:

DESCRIPTION: Back Cr. mouth on the New R.
RIVER MILE: 0.00
LATITUDE: 37.20139 **LONGITUDE:** -80.60289

The upstream limit is on the south edge of the White Gate Quad about 0.70 miles below the Rt. 636 crossing. The downstream end is the mouth of Back Creek on the New River just east of Parrott, Virginia. The segment spans the White Gate, Staffordsville and Radford North Quads.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting, Aquatic Life Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria, General Standard (Benthic 2002)

The Bacteria and General Standard (Benthic) TMDL Study is underway with an anticipated completion in the spring of 2004.

Recreational Use

A TMDL Study site, station 9-BCK015.98 on Rt. 636, Black Hollow Road, finds two of three fecal coliform bacteria observations exceed the WQS instantaneous criterion of 400 cfu/100 ml. The exceedances are 3500 and 5400 cfu/100 ml. Each of three *Escherichia coli* (*E. coli*) samples exceed the WQS instantaneous criterion of 235 cfu/100 ml at >800.

The segment brackets AQ station 9-BCK009.47 (Rt. 100 Bridge) on the Staffordsville Quad. 9-BCK009.47, the original listing station, records 19 of 21 samples exceeding the fecal coliform bacteria instantaneous criterion of 400 cfu/100 ml. The excursions range from 900 to >8000 cfu/100 ml. Each of three *E. coli* samples exceed the WQS instantaneous criterion of 235 cfu/100 ml at >800.

A second TMDL Study site, station 9-BCK000.74, at the Rt. 600 Bridge near Back Creek's mouth, finds two of three fecal coliform bacteria observations in excess of the instantaneous criterion each at 490 cfu/100 ml. One *E. coli* sample exceeds the instantaneous criterion at 290 cfu/100 ml.

Aquatic Life Use

Biological monitoring at 9-BCK009.47 finds severe impairment 'VI'. The benthic impairment is a 2002 addition to the segment. A 1999 RBP II survey score is 37.50. The benthic community at this site is dominated by taxa that are tolerant of nutrient/organic enrichment as evidenced by sedimentation and excessive algal growth on the substrate. Bank erosion and impacts to the riparian zone appear to be the result of land use impacting the riparian zone widths. Informational note: A 2003 RBP II survey, outside the 2004 Assessment data window found 'MI' or moderate impairment (RBP II score 47.83) at this site.

Fact Sheets for Category 5 Waters

IMPAIRMENT SOURCE: NPS - Agriculture / Urban, NPS - Agriculture / Urban

Recreational Use

The source is believed to be a mix of agricultural and urban nonpoint source pollution.

Aquatic Life Use

The source of the General Standard (Benthic) impairment is believed to be a mix of agricultural and urban nonpoint source pollution.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Giles
STREAM NAME: Little Stony Creek
HYDROLOGIC UNIT: 05050002
TMDL ID: VAW-N24R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 2.06 - Miles
INITIAL LISTING: 2002 **TMDL SCHEDULE:** 2014

UPSTREAM LIMIT:

DESCRIPTION: First upstream unnamed tributary to Little Stony Cr.
RIVER MILE: 2.06
LATITUDE: 37.33833 **LONGITUDE:** -80.62913

DOWNSTREAM LIMIT:

DESCRIPTION: Little Stony Cr. mouth on the New River
RIVER MILE: 0.00
LATITUDE: 37.31500 **LONGITUDE:** -80.64419

The segment begins at the first upstream unnamed tributary (at Pembroke) and extends to the Little Stony Creek mouth on the New River. The entire segment is on the Pearisburg Quad.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use

Fecal coliform bacteria cause the segment to not support the recreational use. The segment brackets station 9-LRY000.28 (Rt. T1404 Snidow St. in Pembroke). This station reports two of 14 samples exceeding the fecal coliform bacteria instantaneous criterion of 400 n/100 ml. Exceedances are 500 and 1800 cfu/100 ml.

Aquatic Life Use

Observed Effects - A 1998 sediment collection finds lead (Pb) exceeding the Consensus Based Probable Effects Concentrations (PEC) [MacDonald et al. 2000] screening value (SV) of 128 parts per million (ppm) at 190. This causes these waters to be a 'Water of Concern'. The exact source of Pb is unknown. No excursions of the PEC SVs are found in ambient sediment data from 1999 or 2000 collections.

IMPAIRMENT SOURCE: NPS - Urban

Recreational Use

The fecal coliform bacteria source is believed to be mainly from urban nonpoint source pollution.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Bland, Giles, Pulaski
STREAM NAME: Little Walker Creek
HYDROLOGIC UNIT: 05050002
TMDL ID: VAW-N27R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 17.15 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016
UPSTREAM LIMIT:

DESCRIPTION: Confluence of Spur Br.
RIVER MILE: 17.15
LATITUDE: 37.09047 **LONGITUDE:** -80.92204

DOWNSTREAM LIMIT:

DESCRIPTION: Little Walker Cr. mouth on Walker Cr.
RIVER MILE: 0.00
LATITUDE: 37.20698 **LONGITUDE:** -80.73810

The segment begins at the confluence of Spur Branch on Little Walker Creek extending downstream to the mouth of Little Walker on Walker Creek.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use
Station 9-LWK000.77 located on the Rt. 100 Bridge finds two of 18 fecal coliform bacteria exceedances of the WQS 400 cfu/100 ml instantaneous criterion. The exceeding values are 500 and 1000 cfu/100 ml.

IMPAIRMENT SOURCE: NPS - Agriculture / Wildlife

Recreational Use
Possible sources of fecal coliform bacteria are believed to be from agricultural activity and wildlife.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Giles
STREAM NAME: Wolf Creek
HYDROLOGIC UNIT: 05050002
TMDL ID: VAW-N32R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 5.51 - Miles
INITIAL LISTING: 2004 **TMDL SCHEDULE:** 2016

UPSTREAM LIMIT:

DESCRIPTION: Unnamed Trib at Intersection of Rts. 61 and 724.
RIVER MILE: 5.51
LATITUDE: 37.29731 **LONGITUDE:** -80.87699

DOWNSTREAM LIMIT:

DESCRIPTION: Wolf Cr. mouth on New R.
RIVER MILE: 0.00
LATITUDE: 37.33479 **LONGITUDE:** -80.80979

The upstream limit of the segment is near the intersection of Routes 61 and 724 at the confluence of an unnamed tributary extending downstream to the mouth of Wolf Creek on the New River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use
Station 9-WFC000.20 (Rt. 61 Bridge) finds fecal coliform bacteria exceeds the 400 cfu/100 ml instantaneous criterion in two of 18 samples. Exceeding values are 700 and 1500 cfu/100 ml.

IMPAIRMENT SOURCE: NPS - Urban

Recreational Use

The exact source(s) is not known but is believed to be nonpoint source contributions from residential areas.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Giles
STREAM NAME: Rich Creek
HYDROLOGIC UNIT: 05050002
TMDL ID: VAW-N34R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 2.77 - Miles
INITIAL LISTING: 2002
TMDL SCHEDULE: 2014
UPSTREAM LIMIT:

DESCRIPTION: Brush Cr. mouth on Rich Cr.

RIVER MILE: 2.77

LATITUDE: 37.39889

LONGITUDE: -80.80642

DOWNSTREAM LIMIT:

DESCRIPTION: Rich Cr. mouth on the New R.

RIVER MILE: 0.00

LATITUDE: 37.38139

LONGITUDE: -80.82761

The segment begins just downstream of Peterstown, West Virginia at the mouth of Brush Creek on Rich Creek and extends to the Rich Creek confluence on the New River. The entire segment is on the Peterstown, WVA Quad.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use

Fecal coliform bacteria cause the segment to not support the recreational use. The segment brackets station 9-RHC000.08 (Rt. 806 Bridge). This station finds 10 of 18 samples exceeding the fecal coliform bacteria instantaneous criterion of 400 cfu/100 ml. Exceeding values range from 500 to 2800 cfu/100 ml.

IMPAIRMENT SOURCE: NPS - Urban

Recreational Use

The believed source is urban nonpoint source pollution.

Fact Sheets for Category 5 Waters

RIVER BASIN: New River Basin
CITY/COUNTY: Giles
STREAM NAME: Adair Run
HYDROLOGIC UNIT: 05050002
TMDL ID: VAW-N35R-01
ASSESSMENT CATEGORY: 5A
SEGMENT SIZE: 0.38 - Miles
INITIAL LISTING: 2004
TMDL SCHEDULE: 2016
UPSTREAM LIMIT:

DESCRIPTION: VA / WVA State Line.

RIVER MILE: 0.38

LATITUDE: 37.37194

LONGITUDE: -80.87255

DOWNSTREAM LIMIT:

DESCRIPTION: Adair Run mouth on the New R.

RIVER MILE: 0.00

LATITUDE: 37.37498

LONGITUDE: -80.86752

The Adair Run segment begins at the Virginia / West Virginia State Line and extends downstream to the Adair Run confluence with the New River.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Recreation Use - Not Supporting

IMPAIRMENT CAUSE: Bacteria

Recreational Use

Station 9-ADR000.13 located on the Rt. 648 Bridge finds the recreational use is not supported. Fecal coliform exceeds the 400 cfu/100 ml instantaneous criterion in six of 26 observations. Exceeding values range from 500 to 4200 cfu/100 ml.

IMPAIRMENT SOURCE: NPS

Recreational Use

The exact source of the fecal coliform bacteria contamination is not known but is believed to be nonpoint source related.